

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 September 2005 (09.09.2005)

PCT

(10) International Publication Number
WO 2005/082398 A3

(51) International Patent Classification⁷: **C12Q 1/68**,
G01N 33/68, A61K 38/17

(21) International Application Number:
PCT/US2005/005596

(22) International Filing Date:
24 February 2005 (24.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/547,512 26 February 2004 (26.02.2004) US
60/579,342 15 June 2004 (15.06.2004) US

(71) Applicants (for all designated States except US): **OHIO UNIVERSITY** [US/US]; Technology Transfer Office, 20 East Circle Drive, Athens, GA 45701 (US). **ICORIA, INC.** [US/US]; 108 T.W. Alexander Drive, P.O. Box 14528, Research Triangle Park, NC 27709 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KOPCHICK, John, J.** [US/US]; 4 Orchard Lane, Athens, OH 45701 (US). **COSCHIGANO, Karen, T.** [US/US]; 11703 Channingway Blvd., The Plains, OH 45780 (US). **BOYCE, Keith, S.** [US/US]; 2589 Cole Road, Wexford, PA 15090 (US).

KRIETE, Andres [US/US]; 1222 Driftwood Drive, Pittsburgh, PA 15243 (US).

(74) Agents: **BROWDY, Roger, L.** et al.; Browdy and Neimark, P.L.L.C., Suite 300, 624 Ninth Street N.W., Washington, DC 20001-5303 (US).

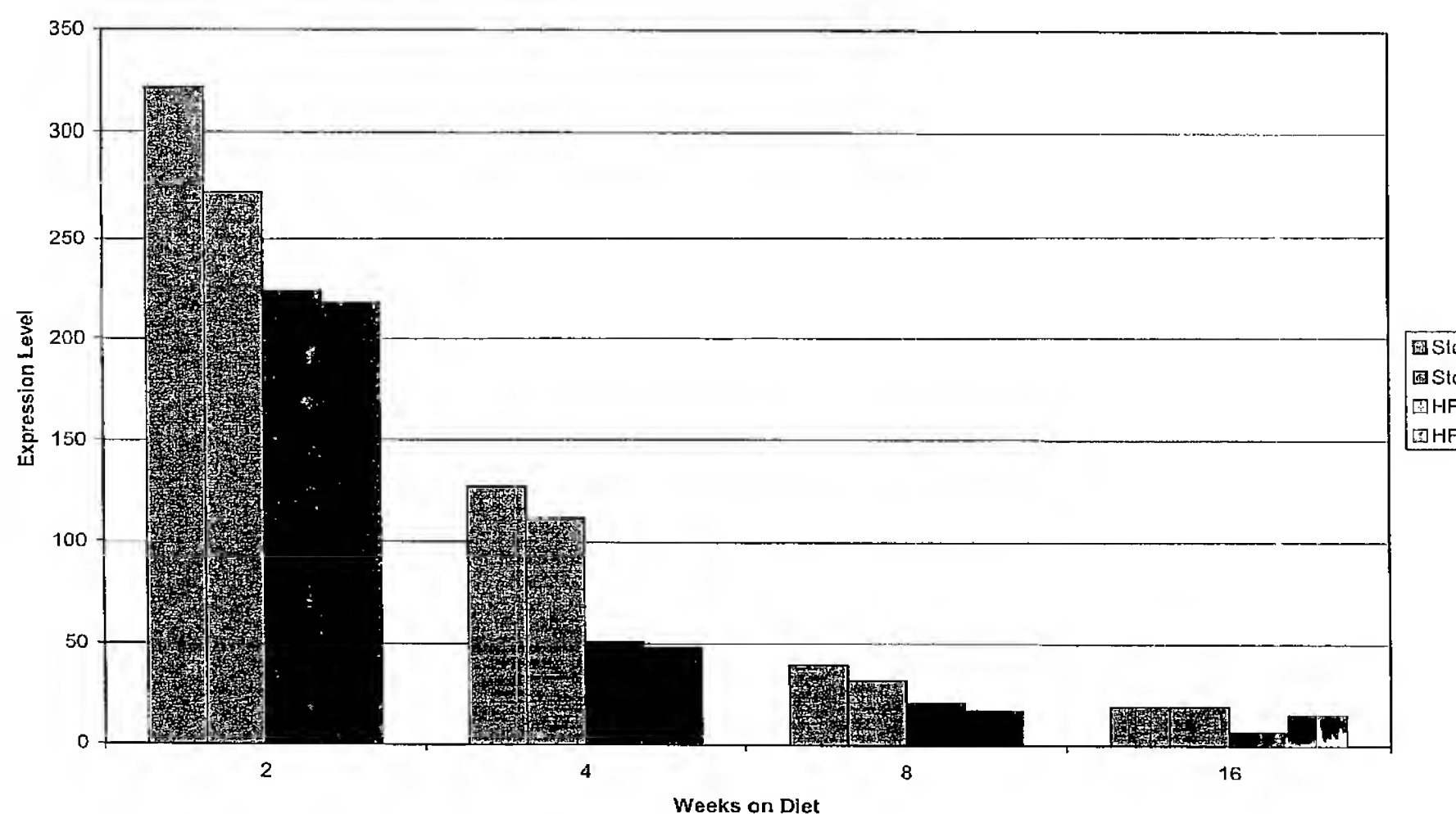
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

[Continued on next page]

(54) Title: DIAGNOSIS OF HYPERINSULINEMIA AND TYPE II DIABETES AND PROTECTION AGAINST SAME BASED ON GENES DIFFERENTIALLY EXPRESSED IN MUSCLE CELLS



(57) Abstract: Mouse genes differentially expressed in comparisons of normal vs. hyperinsulinemic, hyperinsulinemic vs. type 2 diabetic, and normal vs. type 2 diabetic muscle by gene chip analysis have been identified, as have corresponding human genes and proteins. The human molecules, or antagonists thereof, may be used for protection against or diagnosis hyperinsulinemia or type 2 diabetes, or their sequelae.

WO 2005/082398 A3



(88) Date of publication of the international search report:

26 January 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.